DOCUMENT RESUME

ED 250 612 CG 017 811

AUTHOR Goloff, Marc; And Others
TITLE Locus of Control and Outcome in an Operantly-Based Inpatient Multimodal Chronic Pain Program.
PUB DATE Aug 84
NOTE 11p.; Paper presented at the Annual Convention of the American Psychological Association (92nd, Toronto, Ontario, Canada, August 24-28, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Modification; *Locus of Control; Patients; *Physical Activity Level; Physical Health; Rehabilitation Programs; Self Control
IDENTIFIERS *Chronic Pain; Treatment Outcomes

ABSTRACT

During the past 10 years, a number of inpatient programs have been designed for the treatment of chronic pain. To investigate the utility of the Rotter Internal-External Locus of Control Scale (I-E) and Wallston's and Wallston's Health Locus of Control Scale (HLC) in predicting outcome in an operantly-based, multi-modal program for the treatment of chronic pain, data were collected from 46 patients who completed a 5-week inpatient pain program. All patients completed both the I-E and HLC measures during the first few days of the program. They also kept a diary of their activity (reclining, sitting, standing) and subjective pain levels on an hourly basis throughout the program. An analysis of the results showed that patients designated as internals (lower third) on the Rotter I-E became relatively more active during the program than did externals (upper third). Internals on the HLC reported relatively less pain by the end of the program than externals, taking initial pain levels into account. These data highlight the importance of encouraging chronic pain patients to take responsibility for managing their pain condition. (Author/BL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED250612

Locus of Control and Outcome in an Operantly-Based Inpatient Multimodal Chronic Pain Program

Marc Goloff, David Ruhland, Dennis Chu, and Edward Lorenze

Manhattan Veterans Administration Medical Center

New York, New York 10010

CG 017811

Presented at 92nd Annual Convention of the American Psychological Association at Toronto, Ontario, Canada, August, 1984

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Marc Goloff

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Abstract

This study investigates the utility of the Rotter Internal-External Locus of Control Scale (I-E) and Wallston's and Wallston's Health Locus of Control Scale (HLC) in predicting outcome in an operantly-based, multi-modal program for the treatment of chronic pain. Data are reported on 46 patients who completed a 5-week inpatient pain program. All patients completed both the I-E and HLC measures during the first few days of the program. They also kept a diary of their activity (reclining, sitting, or standing) and subjective pain levels on an hourly basis throughout the program. Patients designated as internals (lower third) on the Rotter I-E became relatively more active during the program than did externals (upper third). Internals on the HLC reported relatively less pain by the end of the program than externals, taking initial pain levels into account. These data highlight the importance of encouraging chronic pain patients to take responsibility for managing their pain condition.

This study investigates the usefulness of the Rotter Internal-External Locus of Control (I-E) scale (1966) and the Health Locus of Control scale (HLC) (Wallston, Wallston, Kaplan, & Maides, 1976) in predicting outcome in an operantly-based, multimodal inpatient program for the treatment of chronic pain. During the past ten years a number of inpatient programs have been designed for the treatment of chronic pain. Although many such programs have employed extensive screening, the criteria for admission are typically based on theoretical (Fordyce, 1976; Sternbach, 1974) rather than empirical considerations.

This investigation represents an attempt to identify patient characteristics that might influence response to a multi-modal pain program. The program being reported upon is part of the Rehabilitation Medicine Service at the Manhattan Veterans Administration Medical Center and employs many of the standard rehabilitation services. The basic treatment approach is based upon the Fordyce (1976) model, in which an attempt is made to modify the environmental contingencies that support pain and pain behavior. Any patient who has had pain for at least 6 months is eligible with the exception of patients with rapidly deteriorating conditions or other severe medical problems. Thus the program admits a broader range of patients than those typically selected for inpatient treatment of chronic pain.

The Rotter I-E and the HLC were selected because they have been widely used in health-related studies (Strickland, 1978; Wallston & Wallston, 1978) and because pain management programs emphasize the responsibility of the patient in coping with his or her pain. Internals have generally been shown to be more active and to take greater initiative in relation to their health problems (Kaplan & Cowles, 1978; Rosenbaum & Argon, 1979; Seeman & Evans, 1962; Strickland, 1978; Wallston & Wallston, 1978).

Two studies have looked at locus of control (LOC) and nonsurgical treatment programs related to chronic pain conditions. Applegate (1980) reported that in a center for holistic treatment of chronic pain, internals significantly improved on 18 of 25 outcome measures compared to only 6 for externals. In a study of hemiplegics undergoing rehabilitation, treatment motivation correlated with internal LOC and there was a nonsignificant but positive correlation between treatment success and internal LOC (Finlayson & Rourke, 1978). No research has yet directly examined the relationship between LOC and outcome in an operantly-based inpatient pain program.

Methods

Subjects

This study reports data on patients treated in a 5-week inpatient program for chronic pain. All patients but two were males. Ages ranged from 26 to 71 (M = 55.6, SD = 12.06). The most frequent primary location of pain was lower back (37%) followed by leg (17%), neck, and chest (13% each).

Procedure

All patients completed two locus of control measures: Rotter's I-E and the HLC. Consistent with previous studies, the two scales correlated significantly $r = .48$, $p < .01$). Patients were asked to keep a "diary" throughout the program. They rated their predominant activity (reclining, sitting, or standing) and their subjective pain level (on a scale from 0 to 5) on an hour-by-hour basis. Success in the program was measured by relative changes in pain and activity levels from the beginning (days 3-9) to the end (days 24-30) of the program.

Results

Overall activity level for the group did not increase by the end of the program. Subjects actually spent somewhat less time sitting or standing in the final week compared to the first week (Table 1). Subjective pain level for the group as a whole tended to increase from beginning to end (Table 2). However, when we examined the pain and activity levels of patients who scored in the upper and lower thirds on the locus of control measures, we found significant interactions between outcome and LOC.

Over the course of the program externals on the Rotter became significantly less active while there was a nonsignificant trend for internals to become more active. The interaction was significant ($F(1, 22) = 7.07$, $p < .02$). A similar interaction revealed that the HLC internals were in relatively less pain than externals at the end of the program ($F(1, 22) = 3.91$, $p < .06$). The corresponding interactions involving the Rotter and pain

levels and those involving the HLC and activity levels were not significant.

Discussion

The overall increase in pain levels and decrease in activity levels (as defined by number of hours not reclining) are likely related to the fact that patients engaged in a vigorous schedule during the day in their non-reclining hours. Follow-up data, now being collected, will be crucial to gauging the overall impact of the program. The evidence from this study, however, does suggest that internals respond better to the program than externals. It would appear that patients who see their outcomes tied to their own behavior do remain more active and report less pain during an operantly-based multi-modal pain program. This suggests the possibility that increased therapeutic work with a focus on the importance of the patient taking responsibility for his condition could be helpful in maximizing success in working with chronic pain patients.

References

Applegate, M. H. (1980). Locus of control and educationally-based patient care outcomes in a chronic pain center. (Doctoral dissertation, Indiana University). Dissertation Abstracts International, 41, 3432-3433A.

Finlayson, M. A. & Rourke, B. P. (1978). Locus of control as a predictor variable in rehabilitation medicine. Journal of Clinical Psychology, 34(2), 367-368.

Fordyce, W. E. (1976). Behavioral methods for chronic pain and illness. St. Louis: C. V. Mosby.

Kaplan, G. D. & Cowles, A. (1978). Health locus of control and health value in the prediction of smoking behavior. Health Education Monographs, 6(2), 129-137.

Rosenbaum, M. & Argon, A. (1979). Locus of control and success in self-initiated attempts to stop smoking. Journal of Clinical Psychology, 35(4), 870-872.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs: General and Applied, 80(1), Whole No. 609.

Seeman, M. & Evans, J. (1962). Alienation and learning in a hospital setting. American Sociological Review, 27, 772-782.

Sternbach, R. A. (1974). Pain patients: Traits and treatments. New York: Academic Press.

Strickland, B. R. (1978). Internal-external expectancies and health-related behaviors. Journal of Consulting and Clinical Psychology, 46, 1192-1211.

Wallston, B. S. & Wallston, K. A. (1978). Locus of control and health: A review of the literature. Health Education Monographs, 6, 107-117.

Wallston, B. S., Wallston, K. A., Kaplan, G. D., & Maides, S. A. (1976). Development and validation of the health locus of control (HLC) scale. Journal of Consulting and Clinical Psychology, 44, 580-585.

Table 1
MEAN NUMBER OF HOURS PER DAY NON - RECLINING AT BEGINNING AND END OF PROGRAM

Group	n	PERIOD Days 3 - 9	Days 24 - 30
Total Sample	46	13.21 (2.79)	12.92 (3.15)
		Rotter Internal - External Scale	
Internals (lower third)	14	12.92 (2.69)	13.46 (3.25)
Externals (upper third)	12	13.20 (2.10)	12.26 * (2.68)
		Health Locus of Control Scale	
Internals (lower third)	18	13.68 (3.11)	13.67 (3.56)
Externals (upper third)	16	12.90 (2.35)	12.29 (2.85)

Note : Standard deviations listed in parentheses beneath means,
* $p < 0.05$ (p value for pre / post simple comparisons.)

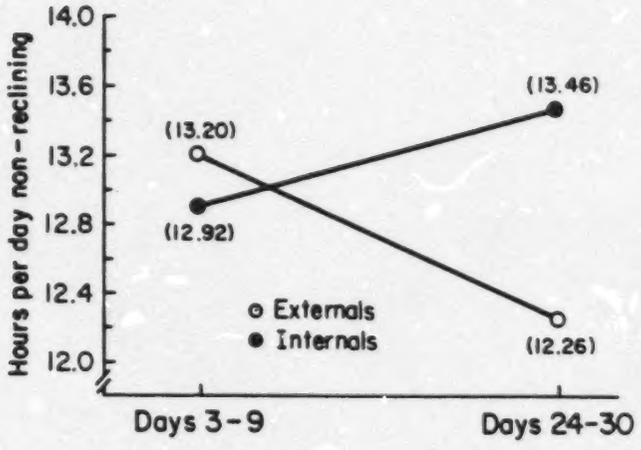
Table 2
MEAN DAILY PAIN LEVEL RATINGS AT BEGINNING AND END OF PROGRAM

Group	n	PERIOD Days 3 - 9	Days 24 - 30
Total Sample	46	2.26 (0.72)	2.58 (0.93)
		Rotter Internal - External Scale	
Internals (lower third)	14	2.34 (0.67)	2.50 (0.91)
Externals (upper third)	12	2.24 (0.59)	2.43 (0.70)
		Health Locus of Control	
Internals (lower third)	18	2.46 (0.77)	2.62 (1.02)
Externals (upper third)	17	2.06 (0.52)	2.61 *** (0.82)

Note : Standard deviations listed in parentheses beneath means,
* $p < 0.001$ (p value for pre / post simple comparisons.)

Figure 1

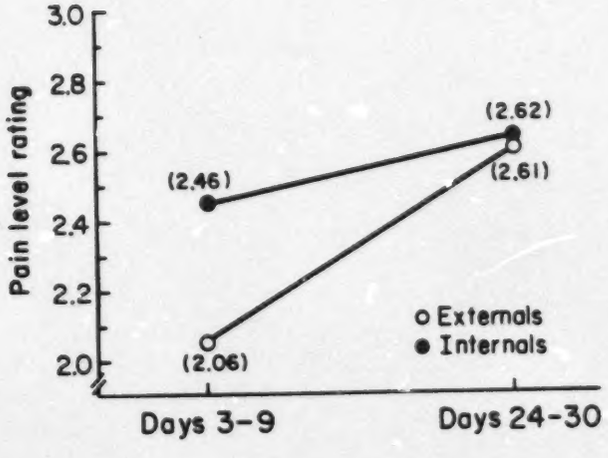
Hours Spent Non-reclining for Patients Who Scored Internal and External on the Rotter Locus of Control Scale



(Interaction: $F(1, 24) = 7.07$, $p < .02$)

Figure 2

Mean Daily Pain Ratings for Patients Who Scored Internal and External on the Health Locus of Control Scale



(Interaction: $F(1,33) = 3.91$, $p < .06$)